

Animal Health



Sit. Stay. Heal. That's what animal health innovators from around the world are doing in Missouri. With a significant portion of the industry's global revenue concentrated here, professionals are given a rare opportunity to sit down and share ideas. And, because Missouri's strength in the industry goes back more than a century, there is real staying power in the burgeoning cluster of new businesses finding their way to the state.

These businesses—coupled with outstanding veterinary schools and incubator facilities—ultimately give us a greater power to heal, with regular breakthroughs in nutrition, diagnosis, and treatment of farm and companion animals.



"Missouri's commitment to scientific advancement and its exceptional workforce have helped make the state the top destination for animal health facility development. In addition to being home to some of the most prestigious veterinary medical training programs and animal health companies—including Monsanto and Boehringer Ingelheim Vetmedica—in the world, Missouri boasts a low-cost business climate, easy access to investors, and facilities devoted to animal health research and commercialization across the state."

— Governor Jeremiah W. "Jay" Nixon

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Missouri's pro-business rankings:

3rd lowest business costs, including employee wages (*CNBC*, 2011)

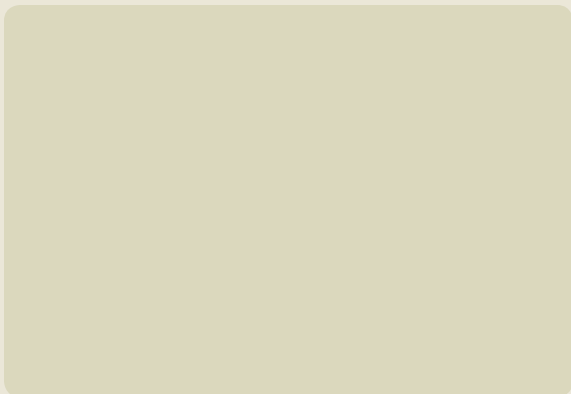
8th most pro-business state (*Pollina Corporate Real Estate*, 2011)

In the top 10 of the U.S. for tax rankings:

Top 10 for property tax index

Top 10 for corporate income tax index

Top 10 for unemployment insurance tax index (*Tax Foundation*, 2012)



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Missouri's Top Five Advantages in Animal Health

Missouri has the right workforce to sustain animal health companies.

- There are over **50,000** Missourians employed in **3,433** bioscience-related firms (*U.S. Bureau of Labor Statistics, 2011*).
- **86.2%** of Missouri's population has attained a high school diploma or higher, exceeding the national average of **85%**.
- Over **1.4 million** Missourians hold a bachelor's degree or higher (*U.S. Census Bureau, American Community Survey*).

Missouri has long been recognized for having the right business environment for animal health companies.

- Nearly one-third (**32%**) of the **\$19 billion** global animal health industry is centered around the Kansas City area.
- Missouri ranks **2nd** for cattle operations and **6th** for cattle inventory. It is also ranked **2nd** in the nation for number of farms (*USDA, 2010*).
- The American Angus Association and the Dairy Farmers of America are among the prominent agricultural associations headquartered in Missouri. Both have a vested interest in animal health research for improved product yield.
- Missouri has the **3rd** lowest business costs in the U.S. (*CNBC, 2011*).

Missouri's state of the art research and incubator facilities support animal health companies in bringing their discoveries from the laboratory to the market.

- Missouri has **11** specialized animal health incubators and research centers spread throughout the state.
- The National Swine Resources and Research Center at the University of Missouri in Columbia was the first to clone and sequence the DNA of pigs.
- The IDEXX Research Animal Diagnostic Laboratory (RADIL) on the campus of the University of Missouri is one of the two largest research animal diagnostic laboratories in the U.S. and the largest at an academic institution.

A photograph of the University of Missouri in Columbia, showing the iconic Old Main building with its large dome and classical columns. The scene is set outdoors with trees and a cloudy sky in the background.

Did you know?

The University of Missouri in Columbia is one of only a few universities in the United States with schools of medicine, agriculture, and veterinary medicine on one campus.

Missouri's top-ranked educational institutions draw unparalleled talent.

- Missouri is home to one of the foremost veterinary schools in the U.S. at the University of Missouri.
- The University of Missouri is one of only a few universities in the United States with schools of medicine, agriculture, and veterinary medicine on one campus.
- The Metropolitan Community College-Kansas City recently received **\$2.2 million** to develop programs to prepare the region's workforce for in-demand careers, including new and expanded degrees and certificates in pet care and animal research.

Missouri's top ranked transportation network is a dependable delivery system for goods and services.

- Missouri has some of the best and least congested transportation infrastructure in the United States, and the **7th** largest highway system.
- **2** of the largest rail terminals in the U.S. are located in Missouri, and the state provides rail access to both East and West coasts.
- Missouri has access to the northernmost ice-free ports and the southernmost lock and dam on the Mississippi river.
- Missouri has **2** major international airports: Kansas City International and Lambert-St. Louis International.

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Recent Projects

2011

- **Aspen Veterinary Resources** (Liberty) announced it was expanding its Liberty distribution center by almost 35,000 square feet, investing \$1.8 million and creating 10 new jobs.
- **SCD Probiotics** (Kansas City) produces probiotics for animal health and recently announced a \$9.1 million expansion project with the potential to create 62 jobs. SCD's probiotics are also used in nutritional supplements, cleaning supplies, lawn and garden products, and pet products.

2010

- **3G Processing** (Mountain Grove) announced a \$6 million investment in a new facility for processing food waste into animal feed, creating 90 new jobs.

Animal Health Companies

- **AFB International, Inc.** (HQ St. Charles) produces and markets pet food products, including biscuits, treats, and snacks.
- **Boehringer Ingelheim Vetmedica** (HQ St. Joseph) develops and markets a broad range of products and technologies worldwide for horses, cattle, swine, and companion animals.
- **Ceva Animal Health, Inc.** (St. Louis) sells veterinary pharmaceutical products for companion and production animals. The company markets its products in the United States, Canada, and internationally. In 2007, Missouri-based Butler Sales Associates was acquired by Ceva Sante Animale S.A. and became Ceva Animal Health, Inc.
- **Manna Pro** (HQ St. Louis) manufactures and distributes animal feeds for various species of livestock, poultry, and pets. The company also provides nutritional feed supplements and healthcare products for performance horses, cattle, rabbits, goats, poultry, and swine.
- **Mars Petcare U.S.** (Kansas City and Joplin) is one of the fastest growing pet food manufacturers in the United States. It manufactures products for dogs and cats marketed under the Pedigree, Whiskas, and Sheba brands. In 2009, Mars Petcare relocated its R&D operation to a production facility in Kansas City.
- **Nestlé-Purina PetCare Company** (HQ St. Louis) became the pet food division of Swiss-based Nestlé after a 2001 merger between the Nestlé's Friskies PetCare Company and the American Ralston Purina Company. Nestlé-Purina PetCare's brands include Alpo, Beneful, Fancy Feast, and Beggin' Strips.
- **Novus International** (HQ St. Louis) is a leading developer of animal health and nutrition programs for the poultry, pork, beef, dairy, aquaculture, and companion animal industries. Novus recently expanded into their new LEED Platinum headquarters in Missouri.

Did you know?

The National Swine Resources and Research Center at the University of Missouri was the first to clone and sequence the DNA of pigs.





■ **Purina Mills** (HQ St. Louis) develops, manufactures, and distributes animal nutrition products and feeds for producers and pet owners. It offers feed for horses, rabbits, goats, poultry, cattle, and outdoor/wildlife animals.

■ **Royal Canin** (HQ St. Charles) produces health nutrition products for dogs and cats, as well as dry cat and dog food. The company also has a plant in Rolla, Missouri.

■ **Sinclair Research Center** (Columbia) is a biomedical research facility offering a full range of preclinical research services to the animal and human health industries.

■ **Synbiotics Corporation** (HQ Kansas City) is a leading developer, manufacturer, and marketer of veterinary diagnostics and services for veterinary practices, reference laboratories, and animal breeders world-wide.

■ **Teva Animal Health, Inc.** (St. Joseph) is engaged in the research, development, and manufacture of veterinary pharmaceutical

products for the worldwide animal health community. Teva Animal Health is the largest U.S. manufacturer of generic pharmaceutical formulations for the animal health market.

Research Parks and Incubators

■ **Christopher S. "Kit" Bond Science and Technology Incubator** (St. Joseph) is home to the Institute for Industrial and Applied Life Sciences, which offers training and wet lab space. The 25,000 square feet incubator is operated in conjunction with Missouri Western University.

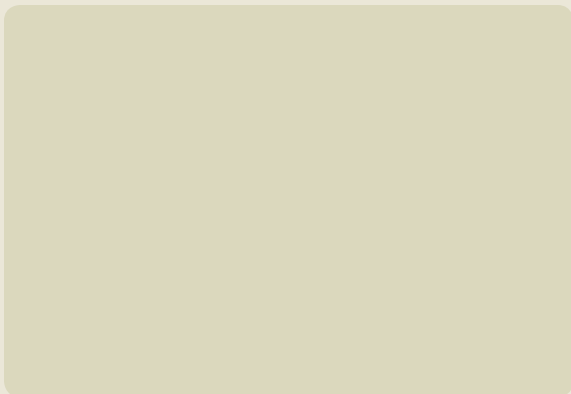
■ **Bio-Research and Development Growth (BRDG) Park** (St. Louis) is adjacent to the Donald Danforth Plant Science Center and houses a variety of tenants in the bioscience industry, including Nidus Investment Partners and Novus International.

■ **Helix Center** (St. Louis) is a new small business incubator that provides startup companies in the plant and life science industries with affordable office and laboratory space,

access to expertise, and facilities near the Donald Danforth Plant Science Center and Bio-Research and Development Growth (BRDG) Park. The Helix Center is scheduled for completion in 2012 with 33,000 square feet of wet and dry lab space.

■ **Independence Regional Ennovation Center** (Independence) provides a turnkey facility for wet and dry lab needs along with general office space in an environment that fosters collaboration and sharing.

■ **Missouri Research Park** (St. Charles), a 200-acre research and development park, is a catalyst for development along the I-64 high-tech corridor in St. Charles County. The Park is owned and managed by the University of Missouri and is home to 15 tenants, including AFB International and the Novus International Research Center, as well as two federal agencies.



■ **University of Missouri Discovery Ridge** (Columbia) leverages the University of Missouri's resources in agriculture, health, veterinary medicine, bioengineering, nutrition, biology, and environmental services.

■ **The University of Missouri Life Sciences Business Incubator at Monsanto Place** (Columbia) has the capacity for a range of tenants in biomedical technologies, information technology, renewable resources/green technology, and nanotechnology, as well as more traditional consumer-based businesses. The incubator was designed to establish a technology cluster in mid-Missouri.

Animal Health Research Centers

■ **IDEXX Research Animal Diagnostic Laboratory (RADIL)** (Columbia) is located on the campus of the University of Missouri. The laboratory is one of the two largest research animal diagnostic laboratories in the U.S. and the largest at an academic institution.

■ **MRIGlobal** (Kansas City), known formerly as the Midwest Research Institute, has earned international recognition for its health research services supporting the pharmaceutical, biotechnology, veterinary, and agrochemical industries worldwide.

■ **The University of Missouri Christopher S. Bond Life Sciences Center** (Columbia) is a recently opened, state-of-the-art center that promotes interdisciplinary research aimed at increasing food production and quality, improving human and animal health, and enhancing environmental quality.

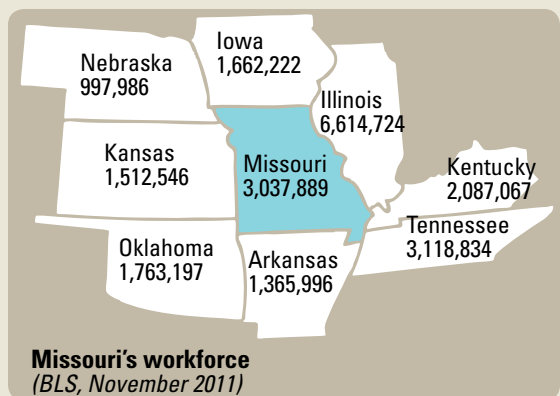
■ **The University of Missouri National Swine Resources and Research Center** (Columbia) is the only center in the United States dedicated to the research of swine genetics and reproduction as a comparative model. The center cloned the first pig in 1989 and was the first to sequence the DNA of a pig in 2006. In 2007, the center was the first to reproduce a pig using in vitro fertilization. The comparative medicine research at the center is developing

breakthrough research technologies in cardiovascular disease, juvenile diabetes, and reproductive technologies.

Venture Capital Funds and Resources

■ **Advantage Capital Partners** (St. Louis) provides equity and debt capital, along with value-added counsel, to operating businesses with a potential for excellent investor returns and significant community impact.

■ **BioGenerator** (St. Louis) is a privately funded, not-for-profit organization that works with researchers, inventors, and entrepreneurs to build successful, sustainable life science companies. The BioGenerator provides assistance—including pre-seed and seed investments, access to no-cost shared labs and equipment, and management support—at the very earliest stages of new company formation.



- **Bush O'Donnell Capital Partners** (St. Louis) invests in companies that have recurring annual revenues of \$5 million or more.
- **Capital for Business, Inc. (CFB)** (St. Louis) targets investments in companies that are leaders in attractive niche markets with the following characteristics: significant and defensible market positions, differentiated products and services, scalable business platforms, and consistent financial performance. CFB targets investments arising from management buyouts, leveraged buyouts, re-capitalizations, corporate divestitures, growth financings, and going-private transactions.
- **Country Club Capital Advisors** (Kansas City) is an independent investment banking firm that provides services to middle-market companies, both public and private. Services include consultation of mergers and acquisitions, capital sourcing, and corporate financial and strategic planning.
- **Nidus Partners** (St. Louis) is a unique collaboration between experienced entrepreneurs

and strategic corporations for the purpose of identifying and commercializing technologies impacting the energy market. The partnership provides seed funding, entrepreneurial experience, and market input to advance early technology toward commercialization.

- **Oakwood Medical Investors** (St. Louis) is a life sciences venture capital fund formed to invest in development-stage medical device, biopharmaceutical, and healthcare service companies.
- **Prolog Ventures** (St. Louis) specializes in early-stage life science and animal health companies.
- **RiverVest Venture Partners** (St. Louis) invests in medical device and biopharmaceutical companies, as well as later-stage life science businesses.
- **Stifel, Nicolaus & Company, Inc.** (St. Louis) is a co-general partner of Vectis II, a national life sciences venture capital and private equity fund, co-headquartered in St. Louis

and in Boston with its partner, Brooke Private Equity Advisors.

- **Thompson Street Capital Partners** (St. Louis) is a private equity firm that invests in profitable middle-market companies headquartered in North America.
- **Tradebot Ventures** (Kansas City) invests in technology-based companies located in the Kansas City region.
- **Triathlon Medical Ventures** (St. Louis) is a Midwest-based venture capital firm that invests exclusively in the life sciences, providing equity capital to early and expansion-stage companies in biomedical technology that address significant human healthcare needs.

Angel Networks

- **Arch Angels** (St. Louis) are a part of the region's seed to later-stage equity capital continuum, targeting an investment range generally underserved by institutional venture capital firms.





Did you know?

Missouri ranks second for number of cattle operations and sixth for cattle inventory (*USDA 2010*).

- **Billiken Angels** (St. Louis) provides capital to firms in all industries and at all stages, not just start-ups. To be considered, however, a company must be owned by current or former St. Louis University students, faculty, or staff, or firms using intellectual property licensed from Saint Louis University.
- **Centennial Angel Network** (Columbia) is a network of accredited investors devoted to funding technology-based start-ups and early-stage companies.
- **Show-Me Angels** (Lee's Summit) is a membership organization of accredited investors committed to investing in early-stage companies in the Kansas City region.
- **Springfield Angel Network** (Springfield) is a nonprofit corporation introducing start-up and existing entrepreneurs from southwest Missouri (although not exclusively) to individuals capable of investing financially.

State Funding Resources

- **Missouri Technology Corporation (MTC)** was established by the Missouri Legislature in 1994 as a private not-for-profit charged with attracting research funding and technology companies to Missouri. MTC has various funding and grant programs aimed at growing the state's bioscience sector, including the Missouri IDEA (Innovation, Development, and Entrepreneurship Advancement) Funds. The IDEA Funds support the transfer of science and technology into job creation and provide financing to eligible businesses through four stages of growth: pre-seed capital-stage financing, seed capital-stage financing, venture capital-stage financing, and expansion-stage debt.

Investment Capital Conferences

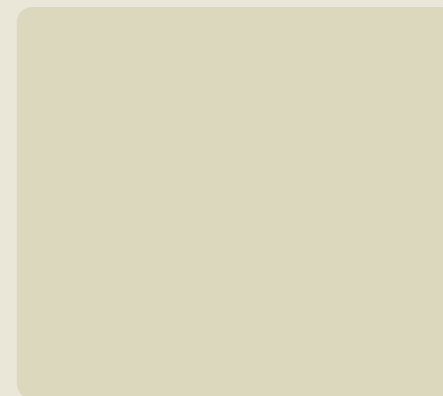
- **Invest Midwest** facilitates investment in the region's top life science, technology, and alternative energy companies. This annual conference attracts more than 300 attendees

and has helped generate \$850 million in investment capital over the past twelve years.

- **Animal Health Investment Forum** is held annually in the Kansas City region and generates investment for early-stage animal health-related companies located all over the world. The 2011 forum featured 14 early-stage animal health companies from as far away as New Zealand and Australia.

Workforce

- The biosciences industry in Missouri is comprised of over 3,400 companies employing over 50,000 Missourians (*U.S. Bureau of Labor Statistics, 2011*).
- 86.2 percent of Missouri's population has attained a high school diploma or higher, exceeding the national average of 85 percent.
- Over 1.4 million Missourians hold a bachelor's degree or higher (*U.S. Census Bureau, American Community Survey*).



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Animal health occupations

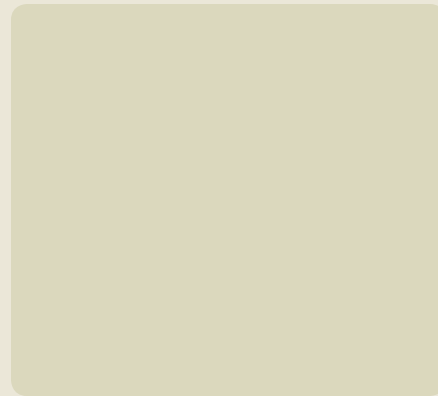
Occupation code	Occupation title	Median hourly	U.S. median hourly
00-0000	All Occupations	\$14.99	\$16.57
19-0000	Life, Physical, and Social Science Occupations	\$24.46	\$28.52
19-1011	Animal Scientists	\$38.90	\$29.44
19-1022	Microbiologists	\$37.35	\$31.36
19-1023	Zoologists and Wildlife Biologists	\$22.23	\$27.60
19-1029	Biological Scientists, All Other	\$31.74	\$34.03
19-4021	Biological Technicians	\$17.90	\$18.98
29-1131	Veterinarians	\$35.62	\$39.86
29-2056	Veterinary Technologists and Technicians	\$14.29	\$14.49

Source: Bureau of Labor Statistics, Occupation Employment and Wages, May 2010

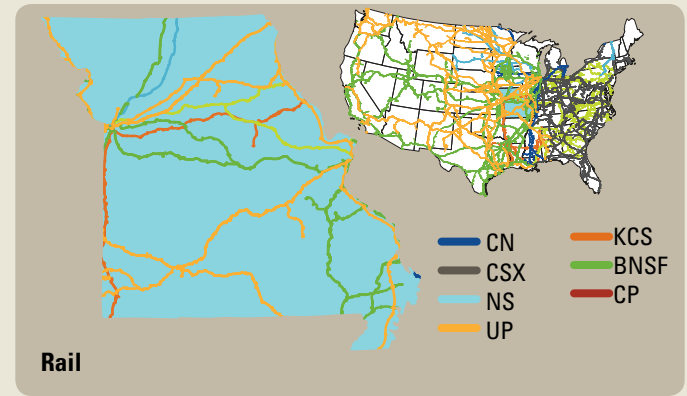
Animal health related degrees granted in 2010

	Associate's degree	Bachelor's degree	Master's degree	Doctor's degree	Total
Animal Sciences	0	131	12	3	146
Biological and Biomedical Sciences	4	1,818	251	140	2,213
Veterinary Medicine	0	0	0	64	64
Veterinary Biomedical and Clinical	83	0	7	1	91
Chemistry	0	289	51	44	384
Total	87	2,238	321	252	2,898

Source: National Center for Education Statistics, IPEDS Data Center, 2010



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Education

- 40 Missouri colleges and universities offer bachelor's degrees or higher in Biological or Biomedical Science.
- In 2010, 79,526 post-secondary degrees/certificates were awarded in Missouri. Of those, 39,670 were bachelor's, 19,403 were master's, and 4,651 were doctor's. The numbers of degrees awarded in all categories exceeded the national average.
- Missouri is home to one of the top veterinary schools in the U.S. at the University of Missouri. The University is one of only a few universities in the United States with schools of medicine, agriculture, and veterinary medicine on one campus.
- The Metropolitan Community College (MCC) offers an animal health program, one of the few such programs in the Midwest. The college's existing two-year degree program in veterinary technology prepares students to assist veterinarians with animal nursing care, lab diagnostics, anesthesia, surgery,

dentistry, radiology, and more. MCC is also one of only six institutions in the U.S. to offer a NAVTA-approved Veterinary Assistant program.

Transportation Infrastructure

- Missouri's transportation system consistently ranks in the top ten of the U.S. (*CNBC*).
- Missouri ranks fourth in the nation for rail and highway accessibility (*Area Development, September 2010*).

Airports

- Whether flying cargo from New York or making a quick trip to offices in San Francisco, Missouri travelers can reach most cities in the United States and Canada in less than three hours by air.
- The airport system in Missouri consists of approximately 140 public airports with two airports supporting international traffic: Lambert-St. Louis International and Kansas City International.

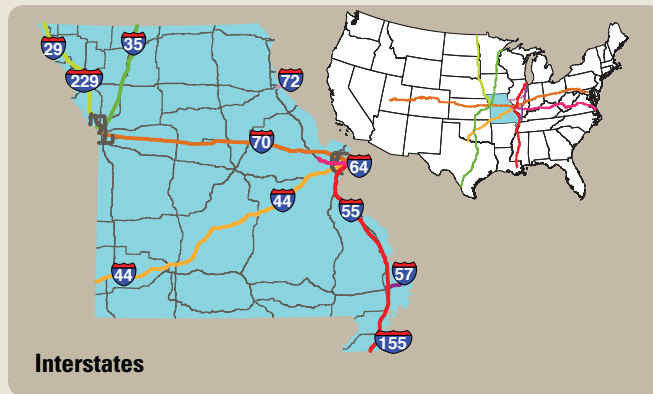
- Springfield, Branson, Joplin, Columbia, Cape Girardeau, Kirksville and Waynesville (Fort Leonard Wood) also have commercial service.

Foreign Trade Zones

- Missouri has three foreign trade zones: Kansas City, St. Louis, and Springfield.
- The FTZ at St. Louis International Airport was recently expanded to include all of St. Louis and St. Louis county.
- The KCI Intermodal BusinessCentre includes 8,000 acres of multi-use land for development on the airfield designated FTZ and enhanced enterprise zone.

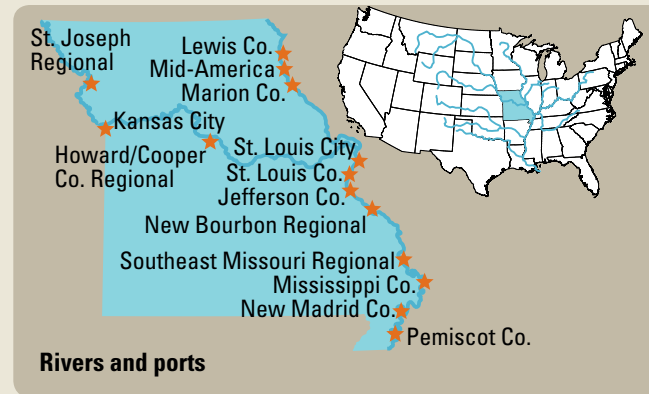
Rail

- Missouri provides efficient, low cost shipping via all class-one carriers: Burlington Northern Santa Fe (BNSF), Kansas City Southern (KCS), Norfolk Southern (NS), Union Pacific (UP), CSX, Canadian National Railway (CN) and Canadian Pacific (CP).



Interstates

download map



Rivers and ports

download map

- Missouri ranks tenth in the U.S. for railroad mileage (*Bureau of Transportation Statistics*).
- Missouri is ranked fourth in tons and third in rail carloads carried by state (*Association of American Railroads*).
- The 1,340 acre CenterPoint KCS Intermodal includes an industrial park located adjacent to the Kansas City Southern Intermodal Facility. These sites are build-ready for facilities up to 1+ million sq. ft. KCS will offer direct rail service to CIC-KC from the deepwater Port of Lazaro Cardenas, Mexico.

Roads

- Missouri boasts one of the largest and least congested highway and interstate systems in the country.
- Missouri has the seventh largest highway system in the U.S. with 33,677 miles (*Reason Foundation, 2011*).
- Missouri has a total of 1,181 interstate miles, with major interstates including I-64, I-44, I-70, I-55, I-35, and I-29.

- I-70, which bisects Missouri, is 2,000 miles long and passes through 10 states. I-25 and I-35 are within the NAFTA corridor, providing easy access to Canada and Mexico.
- U.S. Hwy 71, located between Kansas City and Joplin, will become an extension of I-49 when a \$65 million upgrade is completed in 2012.
- Missouri received \$922 million in Federal highway funding in 2010 (*State Rankings, Federal Highway Administration*).
- There are more than 99,000 commercial trailers registered in Missouri.

Waterways

- With the confluence of the two largest river systems in North America, Missouri provides efficient channels for trade and distribution.
- Missouri's 1,000 miles of navigable waterways—ranked tenth for inland waterway mileage—move an average of \$4.1 billion in cargo annually.

- Twenty-nine industrial centers, with a combined population of 90 million, can be reached from St. Louis by barge. St. Louis is the northern-most point on the Mississippi River that normally remains ice-free and open throughout the year. The city is also the location of the southernmost lock and dam on the Mississippi.
- Missouri has 13 public port authorities and one regional port commission (*Missouri Port Authorities*).
- Almost 2,000 acres are available for development adjacent to Missouri's port authorities.

Major animal health companies

- Angel networks
- Venture capital funds
- Animal health research centers
- Research parks and incubators
- Major animal health companies
- ✦ Airport
- ✦ Port

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Missouri's targeted industry clusters



Advanced manufacturing



Biosciences



Energy solutions



Financial and professional services



Health sciences and services



Information technology



Transportation and logistics

For more information, please contact:

Missouri Partnership
120 South Central Avenue, Suite 1150
St. Louis, Missouri 63105
+1.314.725.0949
www.missouripartnership.com



M I S S O U R I
[real people, real opportunity]